

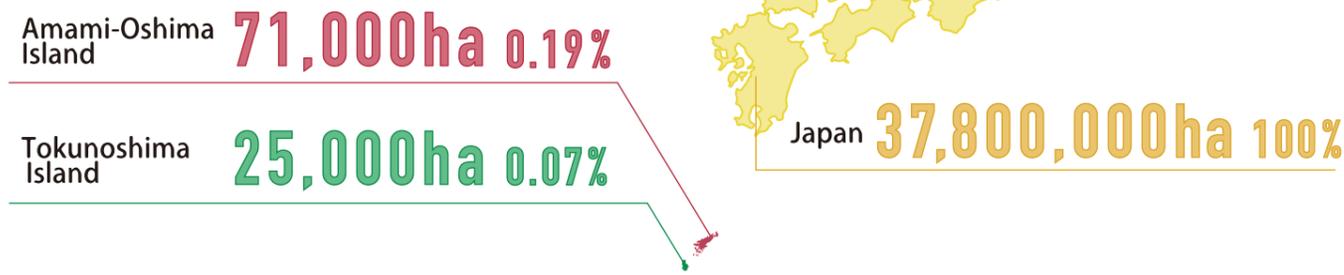
2 | CREATURES LIVING ON AMAMI

The mild and mesic climate has contributed to the formation of the island and has fostered it. One of the benefits of this ecosystem is one finds the rarest of species living here.

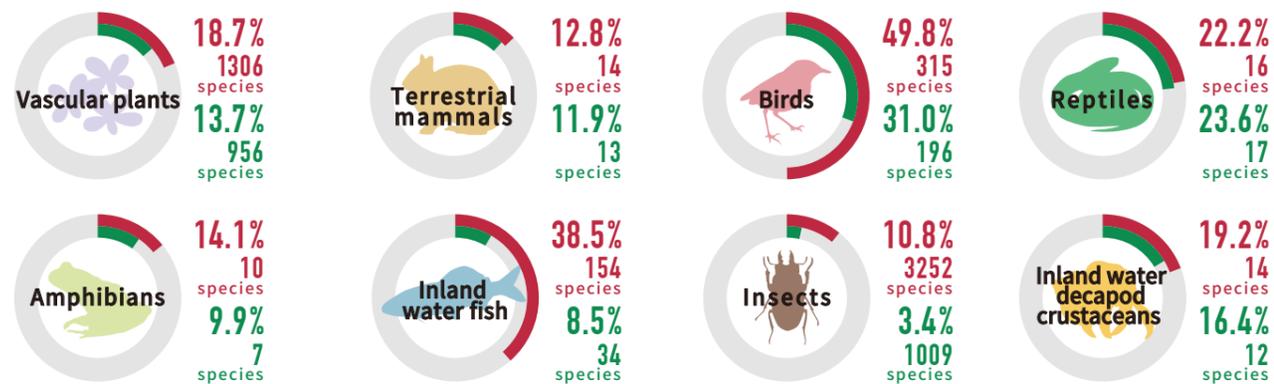
Treasure house of rare living creatures

The total area of Amami-Oshima and Tokunoshima together accounts for only 0.26% of the total land area of Japan. However, various animals and plants are seen here including species native only to these islands.

The area ratio of Japan and Amami-Oshima / Tokunoshima

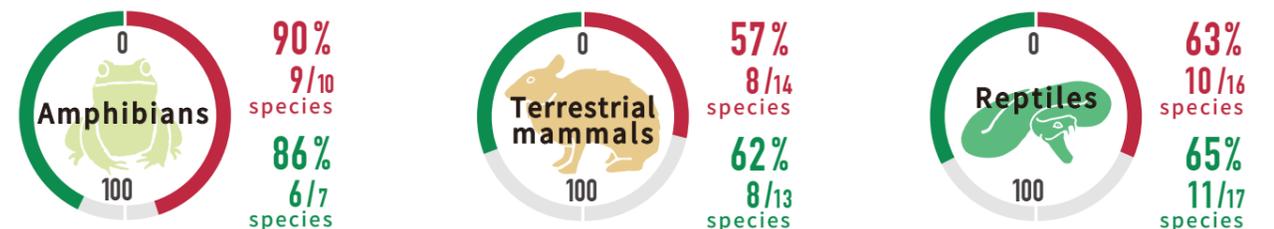


The number of living creatures on Amami-Oshima / Tokunoshima and its ratio in comparison with Japan as a whole



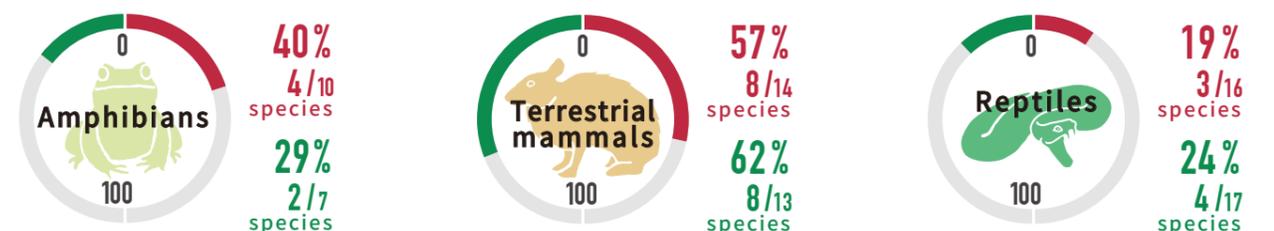
*Source: Nomination for inscription on the World Heritage List

The species on Amami-Oshima / Tokunoshima and its ratio to those that are endemic to the islands



*Source: Nomination for inscription on the World Heritage List

The species on Amami-Oshima / Tokunoshima and its ratio to those that belong to the category of endangered species



*Source: The Japanese Red List

ANSWER Quiz 1: ③ approx. 1,000

3 | REASONS FOR RARE SPECIES FOUND

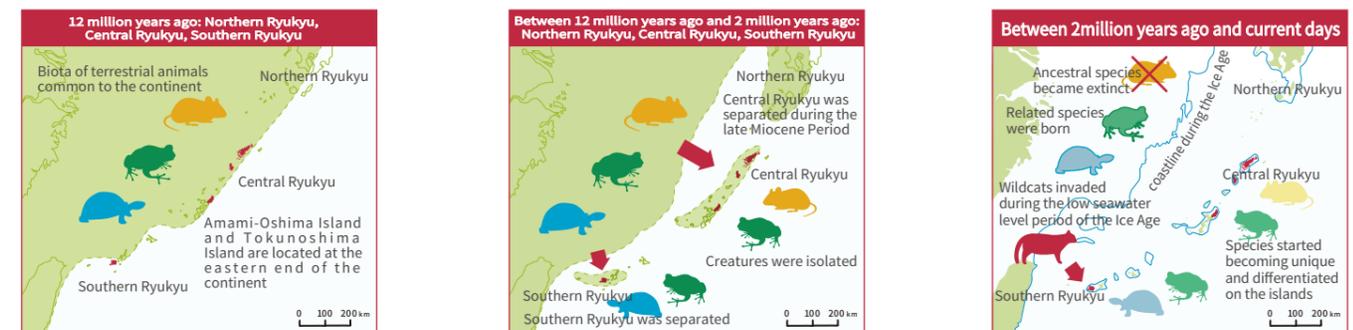
The reasons for the abundance of rare species on Amami-Oshima Island and Tokunoshima Island owes to the geological history of the island's formation and its climate.

1 Geological history and speciation

The Amami Island Group was once connected to the Eurasian Continent and Japanese mainland. However, it was separated from the continent approximately 2 million years ago. The landmass was then separated into the several islands seen today.

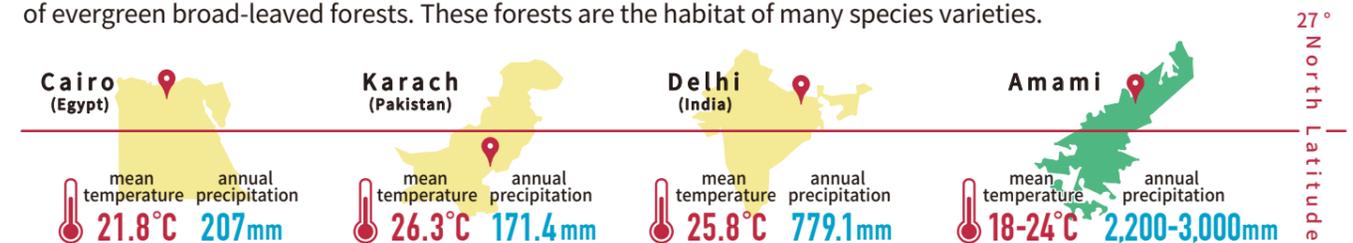
Even though some creatures became extinct on the continent and mainland Japan, they survived on Amami-Oshima Island and Tokunoshima Island because there were no natural enemies or they were able to adapt to environmental changes. The representative animal of this sort is the Amami Rabbit, which is endemic to Amami-Oshima Island and Tokunoshima Island. Species which at one point in time existed in various locations but ended up surviving only in specific regions due to environmental changes are called "relict endemic species."

After the separation from the continent, Amami-Oshima Island and Tokunoshima Island were repeatedly joined with and separated from neighboring islands by the rise and fall of ocean levels until they were formed as seen today. Eventually, species evolved according to the conditions of their respective islands. Other representative animals of this sort are the Amami spiny rat and the Tokunoshima spiny rat. These rats were originally one species, but evolved into different ones due to the pressures endemic to their regions. Such species are called "new endemic species."



2 Climate and species on the islands

The Amami Island Group belongs to the subtropical climatic region with hot summers and relatively mild winters. Many subtropical regions in other parts of the world are arid and some include deserts. The warm Kuroshio Current flowing near the islands and the moist monsoon winds bring rain to the islands and thus support the development of evergreen broad-leaved forests. These forests are the habitat of many species varieties.



*Annual precipitation of Tokyo: 1,400 - 2,200mm, mean temperature: 15.9°C

COLUMN 02 Many of the wild ginger (Kan-aoi, *Heterotropa nipponica*) found in the Amami Island Group are endemic

The family crest of the Tokugawa family, "Mitsuba-aoi" three leaved hollyhock, is well known in Japan. The motif of this crest is the leaf of *Heterotropa nipponica*. Its natural habitat is in the shade where it grows especially well under forest trees. The leaves are heart-shaped and remain green even during winter. During the Edo period, this plant was popularly cultivated. Appreciation of spotted patterns appearing on its leaves was all the rage. There are approximately 60 varieties of *Heterotropa nipponica* confirmed in Japan. Although the total land area of Amami-Oshima Island and Tokunoshima Island is only 1% of the total land area of Japan, ten varieties of endemic species grow naturally here. They have been designated as endangered species by the government of Japan. It is known that the *Heterotropa nipponica* seen on Amami-Oshima Island is genetically of one variety. The seeds are believed to be spread by the activity of ants, and its habitat area is unlikely to expand. From the above facts, we can say that this plant is quite mysterious to have evolved from one variety to another on single island.



ANSWER Quiz 2: ③ Forest of Yakusugi cedars Quiz 3: ③ approx. 200